

Read December 21, 1769.

*I.V. Eclipses of Jupiter's First Satellite,  
the Eclipse of the Moon, and Occultations  
of Fixed Stars by the Moon. Observed  
at the Royal Observatory at Greenwich,  
in the Year 1769. Communicated by the  
Astronomer Royal.*

		Apparent time.				
		h	'	"		
1769						
March	29 Im.	12	25	7	with a 2 feet reflector of Short's constr.	
April	12 Im.	16	16	8	with a 2 feet reflector of Bird's constr.	
April	28 Im.	14	35	17½	with a 2 feet reflector of Short's.	
May	16 Em.	{	9	32	15	with a 2 feet reflector of Short's.
			9	31	35	with a 6 feet reflector of Short's.
June	8 Em.		9	40	56	with a 6 feet reflector of Short's.
June	15 Em.	11	35	33		with a 2 feet reflector of Short's.
Air a little hazy.						
July	1 Em.	9	50	24		with a 2 feet reflector of Short's.
Jupiter very clear.						

ECLIPSE OF THE MOON.

Observed with a 3½ feet achromatic treble object glass telescope of Dollond, with least magnifying power 30 times; and a 2 feet reflector of Short's, with least magnifying power 60 times.

		Apparent time.						
1769		h	'	"	h	'	"	
Dec. 12	16 57 13	16	57	13	16	57	9	Beginning of eclipse.
	17 3 3							The shadow first touches Kepler.
	17 3 33							bisects ditto.
	17 4 3	17	3	35				covers ditto.
Apparent								

		Apparent time.			
		h	' "	h	' "
1769					
Dec. 12		17	9 19		
		17	10 32	17	10 30
		17	13 22		
		17	15 54	17	15 18
		17	16 56		
		17	18 20		
		17	20 1		
		17	26 1	17	26 5
		17	30 52		
		17	32 58	17	33 20
		17	35 17		
		17	36 17	17	37 5
		17	39 42		
		17	40 17	17	40 43
				17	45 14
		17	53 9	17	53 38
		18	6 52	18	6 55

The shadow touches Pytheas.  
 covers ditto.  
 covers Timochares.  
 covers Archimedes.  
 touches Eratosthenes.  
 covers ditto.  
 bisects Copernicus.  
 touches Mare Serenitatis.  
 touches Manilius.  
 covers ditto.  
 touches Menelaus.  
 covers ditto.  
 touches Plinius.  
 covers ditto.  
 covers Dionysius.  
 covers a spot between Plinius and Promont. Somnii.  
 bisects a black spot surrounded by a white circle in Terrâ Mannæ, lying in a line joining Langrenus and Kepler.

The observations in the first column were made by myself, with the  $3\frac{1}{2}$  f. achromatic telescope; and the others by my assistant W. Bayley, with the 2 f. reflector.

## OCCULTATIONS OF FIXED STARS BY THE MOON.

		Apparent time.			
		h	' "		
April 11		7	24 11	Em. of $\mu$ Geminorum, from the Moon's bright limb. Certain to 5 or 10 seconds, with Dollond's $3\frac{1}{2}$ feet telescope.	
May 9		8	14 49	Em. of $\xi$ Geminorum, from the Moon's bright limb, with a 2 feet reflector. The true emersion is supposed to have been about 5 seconds sooner.	

Mean

Mean time.

	h	'	"	
Sept. 15	8	1	43,3	im. of 16 Piscium, at D's bright limb, with 6 f. reflector, certain to 1".
Sept. 20	between 10 22 47,3			and 49",3
				with 6 feet refl.
	between 10 22 50,3			and 51",3
				with 2 f. ref. by W. B.
Sept. 20	10	28	19,6	im. of 1st $\alpha$ Tauri, with both telescopes exactly the same.
	11	12	28,2	em. of 1st $\alpha$ Tauri, at D's dark limb, with 2 feet reflector.
	11	16	54,5	em. of 2d $\alpha$ Tauri, with both telescopes exactly the same.
Sept. 25	17	24	14,6	im. $\beta$ Leonis, at D's bright limb, with 6 feet refl.
	17	24	12,6	ditto, with 2 f. reflector, by W. B.

The star was eclipsed to the north of the Moon's center, and the time seemed certain to less than a second, with both telescopes.

Nov. 18	14	39	3,7	im. of 2d $\alpha$ Cancræ, at D's bright limb, with 2 f. refl. Uncertain to 10".
	15	5	49,3	em. of ditto, at D's dark limb, instantaneous, and the same with both telescopes.